

COMMUNICATIONS MODULE DEVICE



 IRIS

Many communication possibilities

Configurable alerts

Suitable for any water meter with pulse output

GPRS
NB-IoT
 **sigfox**
 **LoRaWAN**



IRIS devices allow mechanical water meters access IoT communications world. Its great versatility allow being integrated with a wide range of water meters, even from different manufacturers.



Sensorization

IRIS devices allow consumption detection in two possible ways:

Inductive sensorization: Immune to external magnetic fields. Only available for HIDROCONTA meters of the ATLANTIS and TRITON range.

Pulse emitter: Any meter that has a pulse emitter, either with a potential-free contact (for example, reed relay) or “Open Collector”, can be connected to the pulse input of the IRIS device.



Communications

Available in NBloT communication through a global modem compatible with the main telephone operators in the market.

It is integrated as a new device in the DEMETER remote control and remote reading system.

In other words, the diversity of communication technologies in IRIS devices corresponds to their integration in the same installation. Thus, depending on the specific requirements of an installation, different technologies could coexist to achieve a complete solution, always through the same family of IRIS devices.



Funcionality

Operating profiles based on the recording consumption and communications records requirements:

Normal-24: Sending data every 24 hours and recording every hour.
Normal-8: Sending data every 8 hours and recording every hour.
Medium: Sending data every 12 hours and registration every 30 minutes.
Extreme: Sending data every 6 hours and registration every 15 minutes.

Possibility of time and data setting due to a RTC that allows both synchronization.



Alarms

Alarm detection and delivery. Allow alerts:



Reverse flow alarm: Reverse flow detection. Only available for the inductive sensor version. Threshold configurable by communications.



Leak alarm: Detection of continued consumption for a maximum period of time. Threshold configurable by communications.



Water meter stopped alarm: The alarm is activated if consumption is not detected for a maximum period of time. Threshold configurable by communications.



Under-dimensioned water meter alarm: Detection of a flow greater than the overload for a maximum period of time. Threshold configurable by communications.



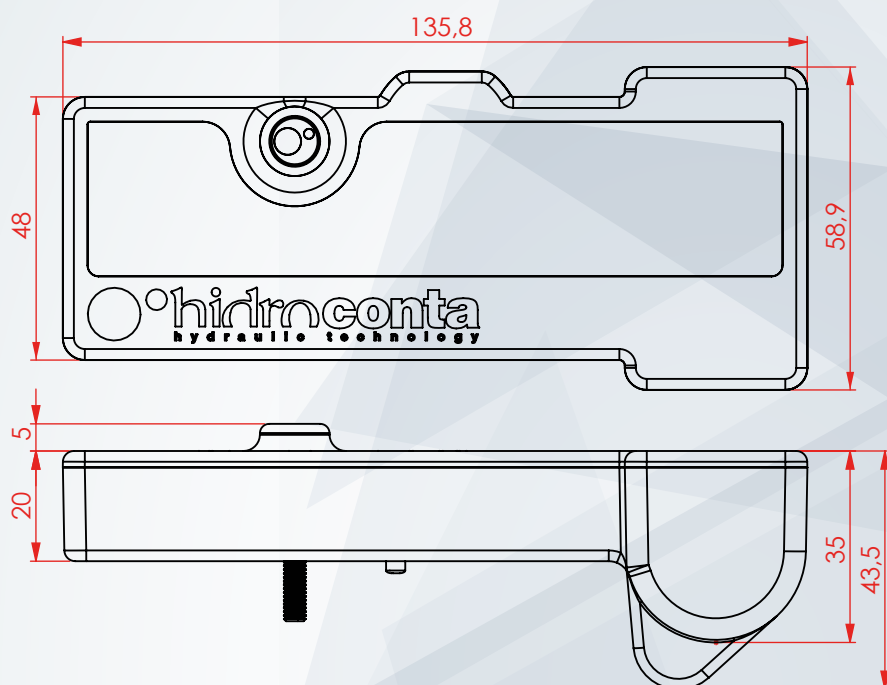
Water meter tampering alarm: The alarm is activated if the device is not installed on the water meter. Only available for the inductive sensor version.



Battery status alarms: battery alarm levels are activated depending on the remaining autonomy.



Disassembly



Electric power

Li - SOCl₂ Battery

Protection class

IP68



Functional characteristics

Sensorization	Inductive	Suitable for any inductive Hidroconta water meter. ATLANTIS y TRITÓN
	Pulse output	<ul style="list-style-type: none"> - Potential free contact. - Reversible and non-reversible electronic pulse emitters (that is, without polarity and with polarity, respectively). - "Open Collector" type pulse emitter

Mode	Autonomy	Communication	Data history storage
Normal -24	12-14 years	24 h	1 h
Normal -8	TBD	8 h	1 h
Medium	TBD	12 h	30 min
Extreme	TBD	6 h	15 min

* TBD (to be determined)

24 maximum storage and sending readings: each sending allows accumulating up to 24 values for each communication interval.



Communications



	RC1*	RC2**	RC4***
Modulación	BPSK	BPSK	BPSK
Frequency	Tx Freq. : 868.13MHz Rx Freq : 869.525MHz	Tx Freq : 902.2MHz Rx Freq : 905.2MHz	Tx Freq : 920.8MHz Rx Freq : 922.3MHz
Output power	14 dBm (max.)@600bps	+24dBm(max.)@600bps	+24dBm(max.)@600bps
Sensitivity	-127dBm@600bps	-129dBm(min.)@600bps	-129dBm(min.)@600bps
Bandwidth	100 Hz	100 Hz	100 Hz
Bidirectional	Limited/Half-duplex	Limited/Half-duplex	Limited/Half-duplex

* Geographical Availability: Austria, Belgium, Botswana, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, French Guiana, Germany, Guadeloupe, Hungary, Iran, Ireland, Italy, Kenya, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Martinique, Mauritius, Mayotte, Netherlands, New Caledonia, Nicaragua, Norway, Oman, Poland, Portugal, Reunion, Romania, Saint Lucia, Serbia, Slovakia, Slovenia, South Africa, Spain, Swaziland, Sweden, Switzerland, Tunisia, United Arab Emirates , United Kingdom.

** Geographic Availability: Brazil, Canada, Mexico, United States.

*** Geographical Availability: Argentina, Australia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guam, Honduras, Hong Kong, Indonesia, Malaysia, New Zealand, Panama, Peru, Singapore, Taiwan, Thailand, Uruguay.



Modulation	CSS	CSS
Frequency	Band ISM EU868*	Band ISM US915, AU915, AS923**/ ***
Power	14 dBm	20 dBm
Sensitivity	168 dBm	168 dBm
Bandwidth	125 kHz	125 kHz
LoRaWAN configuration	SF12	SF12
Bidirectional	Yes /Half-duplex	Yes /Half-duplex
Encryption	AES128	AES128
Standardization	LoRa-Alliance	LoRa-Alliance

*Geographical Availability: Europe, Morocco, Saudi Arabia. ** Geographic Availability: America *** Suitable for Vietnam 918 / 923MHz



Modulation	QPSK
Frequency	Band LTE licence
Power	23 dBm (200 mW)
Sensitivity	140 dBm
Bandwidth	200 kHz
Bidirectional	Yes /Half-duplex
Encryption	LTE Encryption
Standardization	3GPP

GPRS

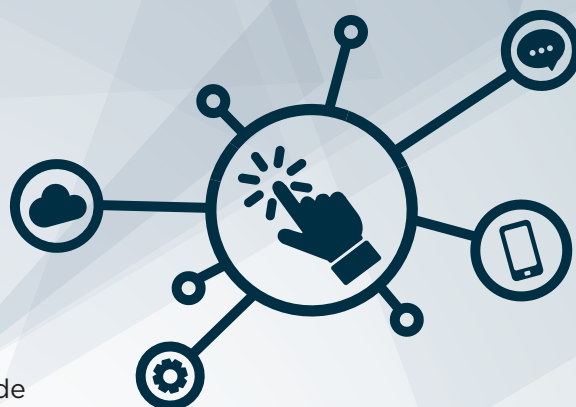
Frecuencia	- Quad - band : GSM850, ESM900, DCS1800, PCS1900.
Transmitting Power	Class 4 (2W) at GSM850 and EGSM900 Class 1 (1 W) at DCS 1800 and PCS1900
Bidirectional	Yes /Half-duplex
SIM	MFF2 eSIM and nano SIM card supported

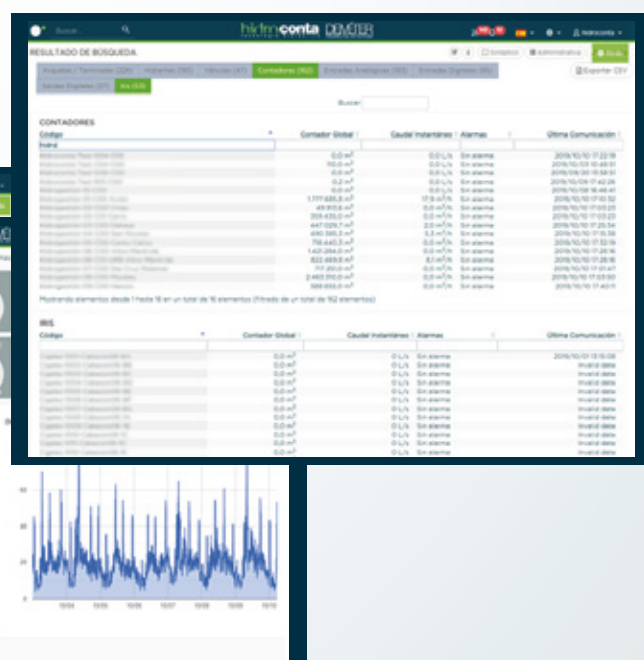


Communications

The Iris communications module is integrated with the Demeter system. This supports the integration of a wide range of devices using many communication technologies depending on the installation needs. From drinking water meter devices with ultrasonic technology to Demeter remote control devices, through AMR systems installed on mechanical meters.

The Remote control system Demeter is integrated with a wide variety of communications technologies present on the market: Sigfox, LoRaWan, NB-IoT, GPRS, etc. . This versatility allows the system to integrate a more suitable measuring device based on the particularities of the ground.







WHEN WATER COUNTS
CUANDO EL AGUA ES LO QUE CUENTA

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